

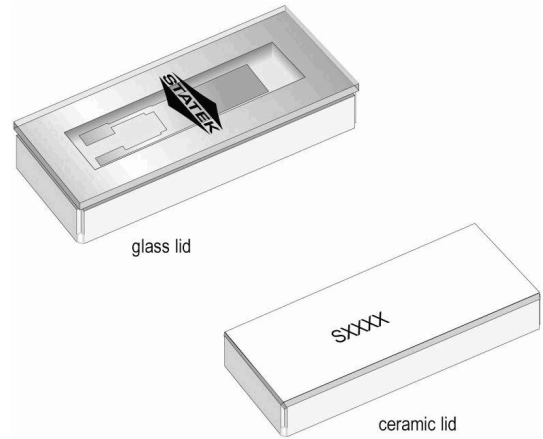
ISSUE 1; February 2020

Description

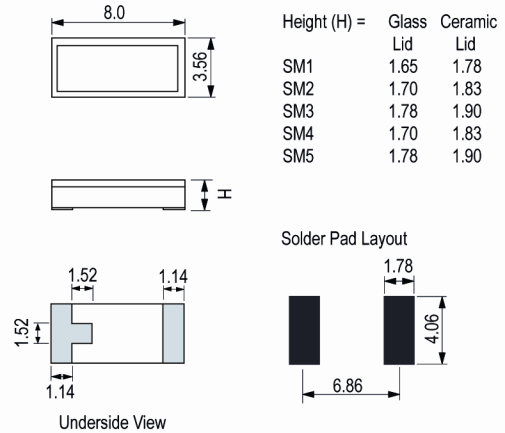
- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. The miniature CX1HG AT crystal is a leadless ceramic package designed for surface mounting on printed circuit boards or hybrid substrates. These rugged crystals are designed for applications requiring exceptional shock and vibration survival.
- -C-SM1 Ceramic Lid, Gold Plated (Lead Free)
- Ceramic Lid, Gold Plated (Lead Free)
- -C-SM4 Ceramic Lid, Solder Plated (Lead Free)
- Ceramic Lid, Solder Plated (Lead Free)
- -C-SM5 Ceramic Lid, Solder Dipped (Lead Free)
- Ceramic Lid, Solder Dipped (Lead Free)
- -SM1 Glass Lid, Gold Plated (Lead Free)
- Glass Lid, Gold Plated (Lead Free)
- -SM4 Glass Lid, Solder Plated (Lead Free)
- Glass Lid, Solder Plated (Lead Free)
- -SM5 Glass Lid, Solder Dipped (Lead Free)
- Glass Lid, Solder Dipped (Lead Free)
- FEATURES:
High shock and vibration resistance
Designed for surface mount applications using infrared, vapour phase or epoxy mount techniques
Low profile hermetically sealed ceramic package
Available with glass or ceramic lid
Custom designs available
- APPLICATIONS:
Industrial -
Down-hole Data Recorder
Process Control
Environmental Control
Engine Control
Telemetry
Ruggedised Instrumentation
Automotive Control
Aerospace -
Surveillance Devices
Ruggedised Communications
Aviation Equipment
- Please note that all data is only valid at 25°C unless otherwise stated.

Frequency Parameters

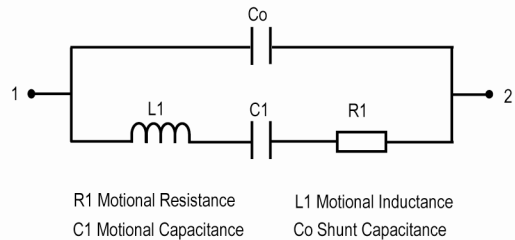
- Frequency 6.0MHz to 250.0MHz
- Frequency Tolerance ±100.00ppm
- Tolerance Condition @ 25°C
- Frequency Stability ±10.00ppm to ±100.00ppm
- Ageing ±10ppm max in 1st year (f<40MHz)
- Notes:
Frequency Stability does not include Frequency Tolerance @ 25°C
- Ageing at ±10ppm max applies for frequencies below 40MHz - for details on higher frequencies and also tighter ageing requirements please contact an IQD Sales Office
- Tighter Frequency Tolerances are available - for details please contact an IQD Sales Office



Outline (mm) -SM1 = Glass Lid, Gold Plated (Lead Free)



Equivalent Circuit



Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1 760 318 2824

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

Electrical Parameters

- Load Capacitance (CL) 10.0pF to 20.0pF
- Shunt Capacitance (C0) 2.3pF typ
- Drive Level 500μW max f≤50MHz,
200μW max f>50MHz
- Electrical Parameters (typ):

Frequency (MHz)	10	32	155.52
Motional Resistance R1 (Ω)	30	25	15
Motional Capacitance C1 (fF)	5.5	6.2	4.0
Quality Factor Q (k)	100	30	30
Shunt Capacitance C0 (pF)	2.2	2.3	2.3

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C
- -55 to 125°C

Environmental Parameters

- Shock: 10000G, 0.2ms, 1/2 sine
- Note: Higher Shock values up to 100000G are available - for details please contact an IQD Sales Office
- Vibration: MIL-STD-202G, Method 204D, Condition E: 20G, 10-2000Hz swept sine
- Note: Random vibration testing also available - for details please contact an IQD Sales Office
- Storage Temperature Range: -55 to 125°C

Manufacturing Details

- Maximum Process Temperature: 260°C for 20sec

Ordering Information

- Frequency*
- Model*
- Lid*
- Termination Variant*
- Frequency Tolerance (@ 25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Load Capacitance
- Overtone
- (*minimum required)
- Lid Variants:
 - Blank = Glass
 - C = Ceramic
- Termination Variants:
 - SM1 = Gold Plated (RoHS)
 - SM2 = Solder Plated (non-RoHS)
 - SM3 = Solder Dipped (non-RoHS)
 - SM4 = Solder Plated (RoHS)
 - SM5 = Solder Dipped (RoHS)
- Example:
 - 10.0MHz CX1HG AT-SM1
 - 100/100/-40 to 85C/20 FUND

Compliance

- RoHS Status (2015/863/EU) Optional
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1 760 318 2824

Email: info@iqdfrequencyproducts.comWeb: www.iqdfrequencyproducts.com

Packaging Details

- Pack Style: Tray Supplied on a tray
Pack Size: 1
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000

Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Over Tone Order	ESR
		°C	ppm		Ω
6.0MHz	250.0MHz	-10 to 70	±10	Fundamental	- 0
		-40 to 85	±20		- 0
		-55 to 125	±30		- 0

*Stability Maximum values ±100ppm

This document was correct at the time of printing; please contact your local sales office for the latest version.
[Click to view latest version on our website.](#)

Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1 760 318 2824

Email: info@iqdfrequencyproducts.comWeb: www.iqdfrequencyproducts.com